

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7591

Petition of Vermont Electric Cooperative, Inc.)
for a certificate of public good, pursuant to)
30 V.S.A. Section 248(j), authorizing the)
replacement of a transformer at its substation)
located on Vermont Route 14 in the Town of)
Irasburg, Vermont)

Order entered: 4/8/2010

I. INTRODUCTION

This case involves a petition filed on August 27, 2009, by Vermont Electric Cooperative, Inc. ("VEC") requesting a certificate of public good under 30 V.S.A. § 248(j) authorizing the replacement of a transformer at VEC's Irasburg, Vermont substation (the "Project").

On October 20, 2009, the Clerk of the Board issued a memorandum requesting additional information before the petition could be processed pursuant to Section 248(j).

VEC filed the necessary information on January 7, 2010.

Notice of the filing was sent on January 29, 2010, to all entities specified in 30 V.S.A. § 248(a)(4)(c) and all other interested parties. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 needed to file comments with the Board on or before March 3, 2010. A similar notice of the filing was published in *The Newport Daily Express* on February 2 and February 9, 2010.

On March 3, 2010, the Department of Public Service ("Department") filed a letter stating that it does not believe that the petition raises any significant issue with respect to the substantive criteria of Section 248. The Department's letter also included a determination that the proposed project is consistent with the Vermont Electric Plan, pursuant to 30 V.S.A. § 202(f).

No other comments on the petition were filed.

The Board has determined that the proposed construction will be of limited size and scope and that the petition has effectively addressed the issues raised with respect to the substantive criteria of 30 V.S.A. § 248. Consequently, we find that the procedures authorized by Section 248(j) are sufficient to satisfy the public interest, and no hearings are required.

II. FINDINGS

1. VEC owns and operates a 46/12.47/7.2 kV distribution substation on Vermont Route 14 in the town of Irasburg, Vermont. The substation primarily serves approximately 1,300 VEC consumer-members in the towns of Albany, Coventry, Craftsbury, and Irasburg. The substation may also be used to serve consumers in several adjacent towns when maintenance is required at VEC's Newport, North Troy and Burton Hill Substations. Electrical energy is obtained at 46 kV from a VEC transmission line that passes near the substation, with the power leaving the substation at 12.47/7.2 kV and consumed entirely by VEC's members located in this geographical area. VEC's Irasburg Substation #42 has one three-phase transformer to reduce the voltage level from 46 kV to 12.47/7.2 kV. The existing substation transformer was manufactured circa 1970 and has a base rating of 3,750 kVA without fan cooling and a rating of 5,250 kVA with fan cooling. Petition at 1-2; Abendroth pf. at 2-3.

2. VEC proposes to replace the existing transformer at the Irasburg Substation with a larger transformer rated at 7,500/9,375 kVA. In addition, VEC will install oil-containment facilities, which will be designed to meet IEEE standards. Petition at 2; Abendroth pf. at 5; Abendroth supp. pf. at 3.

3. The highest summer peak load at the Irasburg Substation was 2,360 kVA and occurred in July 2007. The highest winter peak at the Irasburg Substation was 3,000 kVA and occurred in January 2009. Both of these peak load conditions occurred under normal operating conditions, when the substation was not carrying any load normally served by neighboring substations. Abendroth pf. at 3.

4. If the Irasburg Substation is being used to carry load normally served via the Burton Hill Substation, it would need to serve a total peak load of 5,000 kVA in the summer and 6,000 kVA in the winter. If the Irasburg Substation was being used to carry load normally served via the

North Troy Substation, it would need to serve a total peak load of 6,000 kVA in the summer and 6,500 kVA in the winter. If a portion of the Newport Substation load was carried by the Irasburg Substation, the peak loads would be approximately the same as when the substation serves the load from the North Troy Substation. Abendroth pf. at 4.

5. Load growth in the area served by the Irasburg Substation has averaged 1.6% over the last three years, and has been consistent with the population growth in the area served by the substation. Future load growth is expected to average 1.6% annually, based on VEC's current (2008) Integrated Resource Plan ("IRP"). Abendroth pf. at 4.

6. The past capability of the Irasburg Substation to carry all or part of the load normally served by nearby substations in an emergency has been lost due to long-term load growth. Further, based on analyses performed for VEC's January 2008 IRP, the capacity of the existing transformer will be exceeded in the 2017 time frame. Petition at 2; Abendroth pf. at 4.

7. A transformer rated at 7,500/9,375 kVA would provide sufficient capacity for contingencies as well as allow for long-term load growth over the useful life of the transformer. VEC's long-range plans have identified the need to replace a number of substations on its 46 kV system for reasons of physical condition as well as for load growth. For a number of these substations, a transformer rated at 7,500/9,375 kVA would be the optimum size. In the last five years, VEC has replaced the transformers at its Burton Hill and Richford Substations with units rated at 7,500/9,375 kVA. Given these factors and a desire to minimize the need for spare transformers, VEC selected a transformer rating of 7,500/9,375 kVA for the new transformer. Petition at 3; Abendroth pf. at 5.

8. VEC will install the transformer within the existing substation fence. Petition at 3.

9. The estimated cost for the Project is \$420,000. Petition at 3; Abendroth pf. at 5; exh. HRA-1.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

10. The Project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 11 and 12, below.

11. The Project will maintain the reliability of the region's existing electrical energy supply. The Town of Irasburg does not have a town plan or a planning commission. In Chapter Two, the Northeastern Vermont Development Association Regional Plan states among its goals to "[p]rovide an adequate, reliable, and secure energy supply to meet the region's needs," and "[l]imit the negative aesthetic impacts of power generation and distribution facilities." The proposed upgrade meets these goals because it will maintain system reliability. Abendroth pf. at 7.

12. The Northeastern Vermont Development Association and the Town of Irasburg Selectboard have waived the 45-day advance notice period under Public Service Board Rule 5.402(A), and each supports the project. Abendroth pf. at 7; exh. HRA-3.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

13. The Project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures. This finding is supported by findings 14 through 16, below.

14. Increasing the capacity of the transformer at the Irasburg substation will provide VEC with the ability to carry, in an emergency, all or part of the load that is normally served by nearby substations. This capability will also allow VEC to use the Irasburg substation as a backup when other substations in the area are required to undergo maintenance. Most importantly, the Irasburg

substation can be used to carry a portion of the Newport area load if necessary. Abendroth supp. pf. at 2-3.

15. The transformer at the Irasburg substation is 39 years old, and testing of the transformer oil indicates early signs of transformer insulation system degradation. Abendroth supp. pf. at 4-5.

16. Energy conservation programs and measures, energy efficiency, and load management will not eliminate the need for the Project. Abendroth pf. at 7.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

17. The Project will not adversely affect system stability and reliability. Abendroth pf. at 8.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

18. The Project will result in an economic benefit to the state and its residents by replacing a substation transformer that is approaching the end of its useful life and restoring the capability of the substation to carry load from neighboring substations during abnormal operating conditions, thereby avoiding service interruptions. Abendroth pf. at 8.

**Aesthetics, Historic Sites, Air and Water Purity,
the Natural Environment and Public Health and Safety**

[30 V.S.A. § 248(b)(5)]

19. The Project will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and public health and safety. This finding is supported by findings 20 through 41 below, which are the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1)-(8)(a) and (9)(k).

Outstanding Resource Waters

[10 V.S.A. § 1424(a)(d)]

20. The Project is not located on or near any outstanding resource waters. Abendroth pf. at 13.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

21. The Project will not result in undue water or air pollution. This finding is supported by findings 22 through 30 below.

22. The Project will not involve any industrial/manufacturing emissions, excessive dust and smoke during construction, dust or noise from blasting, odors or excessive noise from construction activity, and therefore will not result in any undue air pollution. No burning will take place. Abendroth pf. at 9.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

23. All changes to the substation will be within the existing fence, accordingly, there will be no adverse impacts to headwaters. Abendroth pf. at 9.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

24. The Project will meet applicable health and Environmental Conservation Department regulations regarding the disposal of wastes, and does not involve the disposal of wastes or injection of any material into surface or ground water. Any wastes produced will be disposed of in an approved landfill. The existing transformer will be returned to inventory for use as an emergency spare. Abendroth pf. at 9.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

25. The Project will not require noticeable amounts of water. Abendroth pf. at 10.

Floodways

[10 V.S.A. §§ 6086(a)(1)(D)]

26. The Irasburg Substation is not located within a floodway. Abendroth pf. at 10.

Streams

[10 V.S.A. §§ 6086(a)(1)(E)]

27. The Project is not located on or adjacent to the banks of a stream. Abendroth pf. at 10.

Shorelines

[10 V.S.A. §§ 6086(a)(1)(F)]

28. The Project is not located on a shoreline. Abendroth pf. at 11.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

29. All changes to the substation will be within the fence-line; accordingly, there will be no impacts to any wetlands. Abendroth pf. at 11.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2)&(3)]

30. A water supply is not required for the Project. Abendroth pf. at 11.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

31. The Project will not result in unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. The Project will

not cause undue soil erosion because construction work will occur inside the existing substation fence. There will be no soil disturbance outside of the fenced area of the substation. Abendroth pf. at 12.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

32. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. The existing substation is located off the public road, and transformer replacement will not impede traffic. Abendroth pf. at 12.

Educational Services

[10 V.S.A. § 6086(a)(6)]

33. The Project does not require educational services. Abendroth pf. at 13.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

34. The Project does not require municipal or government services. Abendroth pf. at 13.

Aesthetics, Historic Sites and Rare and Irreplaceable Natural Areas

[10 V.S.A. § 6086(a)(8)]

35. The Project will not have an undue adverse impact on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas. This finding is supported by findings 36 through 38, below.

36. There will be very limited changes to the visual appearance of the substation as a result of the Project. Abendroth pf. at 9.

37. The existing substation site is in a gravel quarry and thus any above-ground historic sites that may have been present are no longer present. VEC is not aware of any known historic sites in the immediate vicinity of the Project. There will also not be any impact on below-ground

historic sites as all areas of construction activity have previously been disturbed. Abendroth pf. at 8.

38. The Project will not affect the natural environment as it involves limited construction work on previously disturbed land. Abendroth pf. at 14.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

39. All construction related to the Project will occur within the fence-line of an existing substation; accordingly, the Project will not adversely affect necessary wildlife habitat or endangered species. Abendroth pf. at 13-14.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

40. The only public investment near the Project is Vermont Route 14 from which the substation is accessed. The Project will not affect the use of Route 14 by the public. Abendroth pf. at 13.

Public Health and Safety

[30 V.S.A. § 248(b)(5)]

41. All work will be performed in accordance with the National Electrical Safety Code. Abendroth pf. at 14.

Least-Cost Integrated Resource Plan

[30 V.S.A. § 248(b)(6)]

42. The need to install a larger capacity transformer at the Irasburg Substation was specifically noted as a needed improvement in VEC's Integrated Resource Plan. Abendroth pf. at 14.

Discussion

VEC's Integrated Resource Plan was approved by the Board on October 27, 2009, in Docket 7449.

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

43. Vermont's Twenty-Year Electric Plan adopted by the Department of Public Service in January of 2005 sets forth several basic objectives that provide guidance to utilities. Utilities are required to strive to meet these objectives as they design and implement long-range resource plans. Generally these objectives call for the provision of electric service that is "carefully balanced" among the following policy goals: "efficient, adequate, reliable, secure, sustainable, affordable, safe, and environmentally sound, while encouraging the state's economic vitality and maintaining consistency with other state policies." The Project strikes the proper balance among each of these objectives. Specifically, the Project will increase safety and reliability by replacing an obsolete transformer. Abendroth pf. at 15.

44. The Department filed a determination, in a letter dated March 3, 2010, that the proposed project is consistent with the Vermont Twenty-Year Electric Plan, in accordance with 30 V.S.A. § 202(f).

Outstanding Resource Waters

[30 V.S.A. § 248(b)(8)]

45. The Project is not located on or near any outstanding resource waters. Abendroth pf. at 13.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

46. The Project can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers. The existing substation is

served via a VEC 46 kV transmission line, which has sufficient capacity to serve the Project needs. Abendroth pf. at 16.

III. CONCLUSION

Based upon all of the above evidence, we conclude that the proposed construction will be of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized by 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont ("Board") that the proposed Project, in accordance with the evidence and plans presented in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. Section 248, and a certificate of public good shall be issued in the matter, with the following conditions:

1. Construction, operation and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding.
2. The Certificate of Public Good accompanying this Order shall not be transferred without prior approval of the Board.

Dated at Montpelier, Vermont this 8th day of April, 2010.

<u>s/James Volz</u>)	
)	PUBLIC SERVICE
)	
<u>s/David C. Coen</u>)	BOARD
)	
)	OF VERMONT
<u>s/John D. Burke</u>)	

OFFICE OF THE CLERK

FILED: April 8, 2010

ATTEST: s/Judith C. Whitney
Deputy Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.